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Oral Health Awareness among Secondary School Students in Enugu State

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Abstract: Oral health is extremely important for people of all ages and a healthy mouth is a key to living comfortably each day. Oral health problems are public health issues that can affect anybody, irrespective of age, gender and class. Oral health problem can be prevented by creating the relevant oral hygiene awareness. This study looked at oral health awareness among students in secondary schools in Enugu state, in relationship to their oral health status. Specifically, the study determines oral health awareness among three schools classified into public, faith-based/mission and public schools respectively; the factors that influence their oral health awareness and their oral health status. Three schools namely Government Technical College public school), Gateway college (private school) and Deeper Life High School (faith-based school) all in Enugu East, were selected for the study. The senior secondary school (SSS 1 to SSS 3) was specifically involved in the study. A sample size of 270 students out of a population of 910 students was selected through stratified sampling technique. The instrument for data collection was both questionnaire for oral health awareness and oral health examination for oral health status, were used. Result revealed that equal number of students 90(33.33%) was selected from each of the three schools. More male 146 (53.08%) than females 134(46.92%) were involved in the study. Those in the age group 16-18 years old were more 160(44.35%). Cumulatively, results on oral health awareness shows marginal difference in their level of oral health awareness; GTC had 32(11.85%), Gateway College 35(12.96%), and Deeper Life High School 33(12.22%). On factors that influence their oral health awareness, fear and anxiety was higher 78(28.48%), followed by peer group influence 77(28.48%) and the least affordability 15(5.55%). Results of oral health status show that all the students have good oral health status, with Gateway College having fairer oral health condition. It is recommended that Post Primary Basis Education unit of Enugu state, Ministry of Education should include dental health education in the current school curriculum.

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I. INTRODUCTION

Oral health is a critical component of general health since general health plays a significant role in determining overall quality of life. Oral health is crucial to general health because of its many effects on the body as a whole (Block et al., 2022). Since the mouth serves as the body's main entry point, issues pertaining to oral health may also have an impact on overall health (Nyamuryekung'e, 2012). For individuals of all ages, dental health is crucial, and having a healthy mouth is essential to leading a comfortable daily life. It is an essential component of the whole person, and if it is to work well, the individual should be concerned about its health (Nyamuryekung'e, 2012). Psychosocial features of oral health are defined by the World Health Organization (WHO) (2023) as psychological components including self-confidence and well-being, as well as the capacity to socialize and work without pain, discomfort, or humiliation, as well as psychological components including self-confidence and well-being. It can also refer to the state of the mouth, teeth, and or facial structures that enables a person to carry out essential bodily processes including breathing, speaking, and eating.

Andrea Alberto Conti (2018), argues that health is a positive, multidimensional concept that includes a variety of traits, such as ability, integrity, fitness, and well-being. Hippocrates described health as the four humors in equilibrium. This philosophical-naturalistic notion of health and sickness has been surrounded throughout the history of

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Western medicine by a variety of concepts. Depending on the scientist and the medical environment and time period, these ideas have alternately been based on epidemiological, anatomical, physiological, functional, sociological, and molecular views. Three definitions of health are now in use, according to Sartorius (2006). First, health is defined as the absence of illness or incapacity. The second is that a marker of good health is the capacity to manage all of life's responsibilities, which also implies that illness and impairment are absent. According to the third definition, health is the condition of harmony both within and between an individual and their external social and physical surroundings.

Given some of the shortcomings in the WHO(2023) definition, some have suggested substitute definitions for health. René Dubos refuted the idea that technology could promote health in his humanistic 1959 book The Mirage of Health. Rather, he described well health as the state in which each person is most able to fulfil their own aspirations and those of society. A dynamic condition of well-being that is defined by a person's capacity to meet the demands of life that are particular to their age, culture, and level of personal responsibility is another description that might be used. An alternative definition of health was provided by Badash et al. (2017), which added to the WHO definition and took into account the necessity of infrastructure and technology to support a patient-centred healthcare system in the modern era of value-based medicine. An integrated, highly developed healthcare delivery system that is designed to meet all of a patient's medical needs, including disease prevention and management of undesired conditions, co morbidities, complications, and unique patient circumstances, is what is meant to be considered a state of holistic physical, mental, emotional, and social wellness.

An integrated, highly developed healthcare delivery system that is designed to meet all of a patient's medical needs, including disease prevention and management of undesired conditions, co morbidities, complications, and unique patient circumstances, is what is meant to be considered a state of holistic physical, mental, emotional, and social wellness.

Veiga et al. (2023), also noted that the FDI concept shows how dental health impacts general health and well-being by integrating it with other aspects of health. Therefore, educating people about the numerous facets of oral health and how they change over time empowers them, as it is realized that values, perceptions, and expectations affect oral health results. The concept of oral health was expanded to encompass the sense of well-being subsequent to the World Health Organization's (WHO) (2023), expansion of the definition of health to include social well-being. Since then, it has been recognized that maintaining good dental health involves more than merely preventing diseases. A person's well-being encompasses daily activities including eating, chatting, smiling, and giving back to the community.

The FDI defines comprehensive oral health as the ability to speak, smile, smell, taste, touch, chew, swallow, and confidently express a range of emotions through facial expressions without experiencing pain, discomfort, or diseases connected to the craniofacial complex. The features of oral health as described by Glick et al. (2016) are explained as follows: It is, first and foremost, a crucial component of both physical and mental wellness. It exists on a continuum that is molded by people's and groups' attitudes and ideals. The psychological, social, and physiological elements that are essential to a high-quality existence are also reflected in it. Thirdly, it is affected by the individual's evolving experiences, perspectives, expectations, and capacity for situational adaptation (Glick et al., 2016).

Simply put, oral health is the condition of one's mouth. Just as someone can have poor general health, they can also have poor dental health. Oral health is defined as the absence of pain or discomfort in the mouth and face, oral infections and sores, and oral disorders as well as other conditions that involve a person's ability to eat, speak, bite, smile, and maintain psychological well-being. Dental health, which covers the diagnosis, treatment, and prevention of oral health diseases, is a crucial aspect of public health. It is essential to a person's general health and well-being. It is crucial that younger people, particularly students, are informed of the importance of dental health. The long- and short-term health of their mouths can be greatly impacted by good oral hygiene practices and understanding.

WHO (2023), states that dental caries, gum disease, tooth loss, oral cancer, oro-dental trauma, noma, and congenital abnormalities such as cleft lip and palate are all considered oral disorders. Oral illnesses are estimated to affect 3.5 billion individuals globally, making it one of the most prevalent non-communicable diseases. WHO (2023), emphasized once more that the most marginalized and susceptible groups are affected by oral illnesses. For example, regardless of the total financial level of the nation, individuals with poor socioeconomic standing have a larger burden of oral diseases throughout their lives, from early infancy to old age.

Correct health information or knowledge by itself does not always translate into healthy behaviors; In the domains of dentistry and other health care, this has a wealth of documented data. Conversely, acquired knowledge could be a valuable tool for supplying impoverished communities with accurate health and medical technology information, enabling them to take preventative action. Promoting environmental changes as needed to support this goal, educating, encouraging, and supporting people to adopt and maintain healthy habits and lifestyles, conducting professional training and research in support of this process are all part of the community's oral health education process. Any combination of educational activities intended to encourage voluntarily changing behaviors in a way that promotes health is referred to as health education (Themes, 2015).

Health education is any combination of educational activities meant to help individuals and communities improve their health by increasing awareness or altering attitudes

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(World Health Organization (2013). Levine (1985) defined oral health education as the process of educating people about dental health issues in a way that is both personally meaningful and based on evidence and theories from science. It comprises instructing, preparing, and motivating both isolated employees and small teams.

Increasing awareness about oral health can lead to the adoption of good oral behaviors that support improved oral health. This is the goal of education on oral health. In less developed countries, the World Health Organization created a basic oral health care program that includes education on oral health and emphasizes its integration with other oral health-related activities such as emergency, restorative, and preventive dental care (Nakre & Harikiran, 2013).

Several studies have shown that, in comparison to those with lesser levels of knowledge, those with higher levels of oral hygiene education are linked to improved oral health status (Rahem, 2023). Enugu State, which lies in southeast Nigeria, is home to a diverse student body that attends both public and private universities. The educational system in the state offers a chance to evaluate and contrast students' understanding of oral health in various learning environments. Gaining imminent into the oral health behaviors, attitudes, and knowledge of Enugu State students can help develop focused involvement programs and policies. Despite the fact that women report seeing the dentist more frequently than men do, few of them obtain care at the critical time of pregnancy. For people's overall health and well-being as well as the population's, oral health is crucial. However, there are still large gaps in oral health among the general public unpaid to a complex web of socioeconomic and cultural factors that impact oral health and accessibility to quality dental care (Patrick et al., 2006). According to Chopra et al. (2015), cultural or environmental factors have a substantial impact on behavior, making them one of the biggest obstacles to receiving dental health care. Dental hygiene practices, dietary patterns, and the degree of tooth decay are all influenced by culture. Even in circumstances when finances are unaffected and dental services are easily accessible, learned behaviors can still have an impact on health-seeking behavior due to the cultural influences on oral health outcomes and dental service utilization.

According to research (Chopra et al., 2015), children with special needs, children from low-income and minority households, and children raised in rural areas of the United States bear a disproportionate share of the oral disease burden. These are just a few examples of additional health disparities among particular disadvantaged communities. Lack of fluoridation in municipal water supplies, a scarcity of dentists, expensive dental care costs, and restricted dental insurance coverage are possible contributing causes. Oral health disparities are frequently linked to cultural ideas, values, and behaviors; yet, there is little information in dentistry literature that is not epidemiological in nature. Put differently, the literature does not identify particular oral beliefs and practices among various ethnic groups, but rather shows differences in oral health. Certain common beliefs and care-seeking behaviors related to oral health are rooted in culture and significantly deviate from the western dental medicine model, despite the complex overlaps between cultural influences and dental health literacy, socioeconomic status, and personal experience (Carteret & Ed, 2013).

A psychological paradigm known as the "health belief model" propounded by Rosenstock (1974) that focuses on people's attitudes and beliefs in order to forecast and explain actions related to health was used for this study. The study suits this study thus; Perceived Severity and Susceptibility: According to the HBM, people are more inclined to act if they think a health issue is significant and that they are vulnerable to it. When it comes to oral health, pupils who recognize the seriousness of dental conditions like cavities and gum disease and who believe they are prone to them are more likely to exercise preventive oral hygiene.

Perceived Benefits and Barriers: Students' behavior will be influenced by how they perceive the advantages and disadvantages of practicing oral health. For instance, people are more likely to brush and floss regularly if they think that doing so has low barriers to adoption and that it is simple to include into daily routine, respectively, leading to healthy teeth and gums.

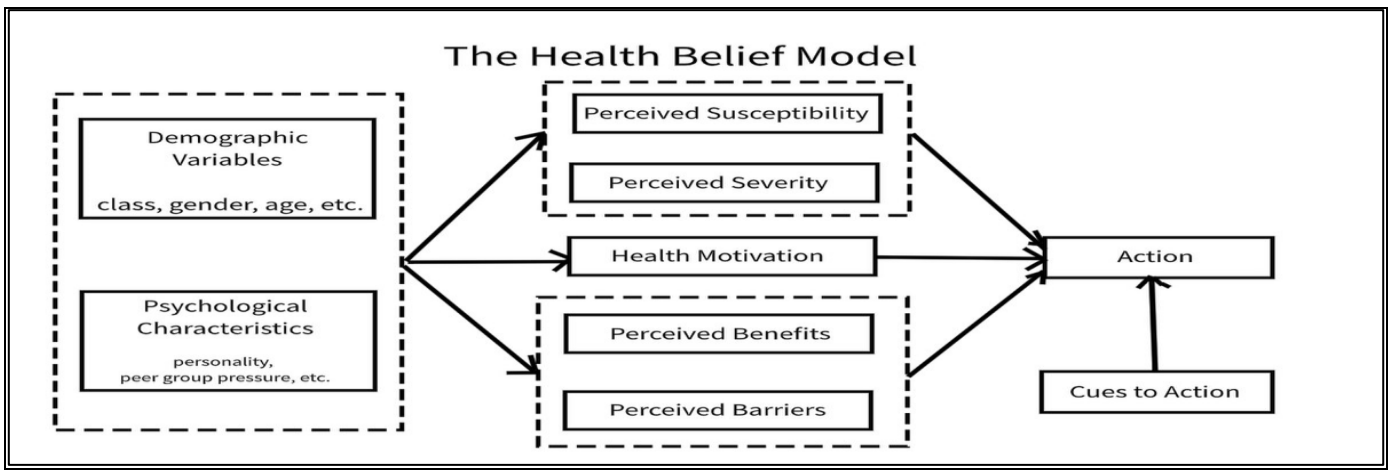

Fig 1: The Health Belief Model

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There is still a knowledge gap about the degree of oral health awareness among students in Enugu State, notably in private and public schools, despite the advances in dental treatment and oral health education. The creation of efficient policies and treatments targeted at enhancing oral health outcomes for this population is hampered by this knowledge vacuum. For example, the researchers noticed that many school-age children in rural Enugu State participated in community programs led by the researchers and their team of dental health professionals. These programs focused on oral health issues that could be easily avoided by practicing good oral hygiene. The majority of people with whom the researchers spoke with were ignorant of certain fundamental oral hygiene practices and how oral health issues can be managed.

A. Research Questions

➢ *To Guide the Study, the Following Research Questions will be Addressed:*

- How much do students in Enugu State's public, private, and faith-based/missionary schools know about oral health?
- What are the factors that affect pupils' awareness of oral health in the chosen Enugu State schools?
- What is the state of dental health among kids attending public, private, and faith-based/missionary schools in Enugu state?

B. Research Hypotheses

➢ *The study was guided by the following null hypotheses:*

- **Ho:** There is no significant difference in the level of oral health awareness between students in private, faith based/mission and public schools.
- **H_1:** There is significant difference in the level of awareness between students in private, faith based/mission and public schools.
- **Ho:** There is no significant relationship between oral health awareness and the oral health status of students in private, faith based/mission and public schools.
- **H_1:** There is significant relationship between oral health awareness and the oral health status of students in private, faith based/mission and public schools.

C. Research Method

The research design used for this study was a cross-sectional descriptive survey with an analytical component. The researcher was able to ascertain the link between variables through the design selection. When a sizable population is involved and data is gathered at a specific moment in time, the design is employed. Nonetheless, it enables the researcher to use percentage, frequency, mean, and mean deviation to describe and analyze data. The researcher also used it to gauge the understanding of pupils in a few chosen secondary schools in the Enugu-East Local Government Area of Enugu State. Secondary school students (SSS 1 through SSS 3) enrolled in Government Technical College, Deeper Life High School, and Gateway College in Enugu make up the study's population. In total, there are 910 students. Here is the breakdown: Deeper Life High School has 180 students, Gateway College has 210 students, and Government Technical College has 520 students. A modified structured questionnaire with a likert scale served as the source of the instrument needed for data collection. This questionnaire was adapted from the one that was utilized by Omale (2014) among other authors. Three components comprised the questionnaire: The demographic profiles of the respondents (students) are included in Section A; questions about oral health awareness are found in Section B; and factors influencing the respondents' level of oral health awareness are found in Section C. They should document their oral health status (i.e., the state of their oral health) in Section D. In order to ascertain whether their awareness of their oral health and the state of their oral health are related, section D is required. The coordinator of the National Open University (NOUN), Enugu study center's public health program provided an introduction to the three secondary schools that were chosen for this investigation. The letters requesting access to the Senior Secondary section kids were sent to the principals of each school for their approval. Once the principals of each school granted the researcher ethical approval, the researcher collaborated with the classroom teachers to effectively approach and capture the attention of the pupils. During class time, the researcher approached the students and gave them an explanation of the goal and title of the study. The responders received guarantees of total confidentiality and anonymity.

Two dental professionals, who functioned as research assistants, were hired by the researcher. The chosen pupils were gathered in a large classroom with the assistance of a few teachers who had been appointed by their respective schools to help the youngsters relax. Each participant's questionnaire was given out with assistance from the study assistants. Under the careful supervision of the researcher, a Chief Dental Officer, the research assistants examined the students' oral health in natural daylight. Examining oral deposits, tooth stains, dental caries (holes in teeth), and gingivitis (swollen gums) are all part of the oral health checkup. The researcher, along with the research assistants, documented each student's responses to the section D of the questionnaire.

D. Sampling, Procedure and Sample Size

In order to choose the schools for this study, Government Technical College in Enugu, Gateway College, and Deeper Life High School in Enugu, stratified sampling was employed. The institutions were classified as public, faith-based, and public, respectively. Additionally, stratified sampling was utilized in the student selection process, which involved grouping the students into class strata (SSS 1 through SSS 3). Next, 90 students from each of the three schools were chosen at random using simple random sampling. 270 secondary school students that fit the inclusion criteria were chosen for this study in an effort to address non-response concerns.

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- **Inclusion Criteria**: The Senior Secondary (SS1 through SS3) students in the secondary schools were the ones who met the inclusion criteria for the study. By completing a consent form, the students must also indicate that they are willing to take part in the study.
- **Exclusion Criteria**: Junior Secondary students (JSS 1 through JSS 3) were not entitled to participate, according to the exclusion criteria. Participants in the study will not be permitted to be eligible students who declined to fill out consent papers.

II. RESULT

Table 1: Socio-Demographic Variable of Respondents n = 270

Variables	Categories	GTC (%)	Deeper life (%)	Gateway (%)
Age Group	10-12	17(6.29)	14(5.19)	24(8.89)
	13-15	30(11.11)	28(10.37)	28(10.37)
	16-18	41(15.19)	48(17.78)	31(11.48)
	19 above	2(0.740)	0(0.00)	7(2.59)
Gender	Male	45(16.67)	60(22.22)	41(15.18)
	Female	4516.67)	30(11.11)	49(18.19)
Class	SSS1	30(11.11)	27(10.00)	34(12.59)
	SSS2	31(11.48)	36(13.33)	28(10.37)
	SSS3	29(10.74)	27(10.00)	28(10.37)
Religion	Christian	72(26.67)	90(33.33)	80(29.63)
	Muslim	18(6.67)	0(0.00)	10(3.70)
	Traditionalist	0(0.00)	0(0.00)	0(0.00)
	Pagan	0(0.00)	0(0.00)	0(0.00)

➢ *Key:*

- Faith Base School: Deeper life secondary School, Enugu
- Private School: Gateway Secondary School, Enugu.
- Public School: Government Technical College.

Table 1 The socio demographic characteristics of the respondents are displayed in Table 1 above; students between the ages of 10 and 12 who participated in the study were represented by the age group of the three chosen schools: GTC recorded 17 (6.29%); Deeper Life recorded 14 (5.19%); and Gateway recorded 24 (8.89%) respondents. Thirteen to fifteen-year-old study participants state that: GTC recorded thirty respondents (11.11%), Deeper Life recorded twenty-eight respondents (10.37%), and Gateway recorded twenty-eight respondents (10.37%). Students who participated, aged 16 to 18, reveal that GTC received 41 (15.19%) responses. Thirty-one (11.48%) respondents were registered with Gateway, and 48 (17.78%) respondents with Deeper Life. Among the students that participated who were 19 years of age or older, GTC recorded 2 (0.740%), Gateway recorded 7 (2.59%), and none of the students in Deeper Life were older than 19.

The three schools selected were determined by looking at the gender distribution of the respondents: 45 (16.67%) male respondents and 45 (22.22%) female respondents were from GTC; 60 (22.22%) male respondents and 30 (11.11%) female respondents were from Deeper Life; and 41 (15.18%) male respondents and 49 (18.19%) female respondents were from Gateway.

According to the respondent's courses at the three selected schools, GTC identified 31 (11.48%), 30 (11.11%), and 29 (10.74%) respondents from SSSI, SSSII, and SSSIII. Thirty-seven (10.00%) SSSI respondents, thirty-six (13.33%) SSSII respondents, and twenty-seven (10.00%) SSSIII respondents reported a deeper life. 34 (12.59%) SSSI responses, 28 (10.37%) SSSII responses, and 28 (10.37%) SSSIII responses were sent to the Gateway School.

The following three schools were chosen in accordance with the respondents' religious beliefs: All respondents were identified as Christians by Deeper Life; 80 (29.63%) Christians and only 10 (3.70%) Muslims were recorded by Gateway; 72 (26.67%) Christians and only 18 (6.67%) Muslims were recorded by GTC.

Table 2: Respondents Level oral health Awareness n = 270

Statement on Level of Awareness	Selected Schools	Yes (%)	No(%)
Are you aware of the importance of regular dental checkups?	GTC	53(19.63)	37(13.70)
	Deeper life	49(18.15)	31(11.48)
	Gateway School	44(16.29)	46(17.04)
Are you aware of the proper techniques for brushing teeth?	GTC	65(24.07)	24(8.89)
	Deeper life	79(29.26)	11(4.07)

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	Gateway School	73(27.04)	17(6.30)
Are you aware of the importance of flossing in maintaining oral health?	GTC	34(12.59)	56(20.74)
	Deeper life	21(7.78)	69(25.56)
	Gateway School	40(14.81)	50(18.52)
Are you aware of impact of diet on oral health (eg avoiding sugar and snacks)?	GTC	15(5.56)	75(27.78)
	Deeper life	35(13.33)	55(20.37)
	Gateway School	45(16.67)	45(16.67)
Are you aware of signs and symptoms of common dental issues (eg cavities, gum disease)?	GTC	12(4.44)	78(28.89)
	Deeper life	29(10.74)	61(22.59)
	Gateway School	33(12.22)	57(21.11)

➢ *Key:*

- Faith Base School: Deeper life secondary School, Enugu.
- Private School: Gateway Secondary School, Enugu.
- Public School: Government Technical College.

Table II The degree of oral health knowledge in the three chosen schools is displayed in Table 2 above. According to the results, when asked if respondents knew how important it is to get regular dental checkups, 53 (19.63%) said they did, compared to 37 (13.70%) from GTC; 49 (18.15%) said they did, compared to 31 (11.48%) from Deeper Life School; and 44 (16.29%) said they did, compared to 46 (17.04%) from Gateway School.

Regarding the respondents' awareness of proper tooth-brushing techniques, the following responses were made: 79 (29.26%) are aware, whereas 11 (4.07%) from Deeper Life School are not aware; 73 (27.04%) are aware, whereas 17 (6.30%) are not aware from Gateway School; 65 (24.07%) are aware, whereas 24 (8.89%) are not aware from GTC.

Regarding respondents' awareness of the importance of flossing for maintaining oral health, the following information was found in the statement: only 34 respondents (12.59%) are aware, while 56 respondents (20.74%) from GTC school are not aware; 21 respondents (7.78%) are aware, while 69 respondents (25.56%) from Deeper Life school are not aware; 40 respondents (14.81%) are aware, while 50 respondents (18.52%) are not aware from Gateway school.

Only 15 respondents (5.56%) were found to be conscious of the impact of diet on oral health (e.g., avoiding sugar and snacks); 75 respondents (27.78%) from GTC school were not aware; 35 respondents (13.33%) were aware, but 55 respondents (20.37%) from Deeper Life school were not aware; 45 respondents (16.67%) were aware, and 45 respondents (16.67%) from Gateway school were not aware.

According to the statement, the following respondents are aware of common dental problems (like cavities and gum disease) and their symptoms: 12 (4.44%) are aware, while 78 (28.89%) from GTC are not aware; 29 (10.14%) are aware, while 61 (22.59%) from Deeper Life School are not aware; 33 (12.22%) are aware, while 57 (21.11%) from Gateway school are not aware.

Table 3: Factors influencing Oral Health Awareness n = 270

Identify Factors	**GTC(%)Deeper life (%) Gateway(%)**		
Fear and anxiety	20(7.41)	28(10.37)	30(11.11)
Perceived need	24(8.89)	14(5.18)	4(1.49)
Cost of oral health service	6(2.2)	10(3.70)	21(7.78)
Accessibility	7(2.56)	0(0.00)	16(5.92)
Affordability	2(0.74)	0(0.00)	13(4.81)
Peer group	31(11.48)	38(14.07)	9(3.33)

➢ *Key:*

- Faith Base School: Deeper life secondary School, Enugu.
- Private School: Gateway Secondary School, Enugu.
- Public School: Government Technical College.

Table 3: The elements listed in Table 3 had an impact on the oral health knowledge of the three selected schools. The factors that were found included fear and anxiety, perceived need, peer group, cost of oral health treatments, accessibility, and affordability. The findings indicate that, respectively, 20 (7.41%), 28 (10.37%), and 30 (11.11%) respondents had dread or anxiety related to GTC, Deeper, and Gateway. A total of 24, 8, 89%, 14, 5.18%, and 4 (1.49%) of the respondents reported having perceived needs from GTC, Deeper Life, and Gateway School, respectively. Three respondents—six (2.2%), ten (3.70%), and twenty-one (7.78%)—discussed the price of dental care from GTC, Deeper Life, and Gateway School, respectively. There were no respondents from Deeper Life, although 2 (0.74%) and 16 (5.92%) respondents, respectively, reported being accessible from GTC and Gateway. Two (0.74%) and thirteen (4.81%) respondents from GTC and Gateway, respectively,

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mentioned affordability, however no respondents from Deeper Life made this observation. In addition, GTC, Deeper, and Gateway were revealed by 31 (11.48%), 38 (14.07%), and 9 (3.33%) of the participants, respectively.

Table 4: Oral Health Examination of Students Oral Health Status n = 270

Variables Categories	GTC(%)	Deeper life (%)		Gateway(%)
Observed Oral Health Problems	Dental Plagues	6(2.22)	3(1.11)	8(2.96)
	Dental Calculus	2(0.74)	9(3.33)	3(1.11)
	Stain	0(0.00)	1(0.37)	5(1.85)
	Gingivitis	0(0.00)	4(1.48)	1(0.37)
	Caries	3(1.11)	7(2.59)	0(0.00)
	None	91(33.70)	66(24.44)	73(27.04)
Oral Health Examination Status	Very Poor	0(0.00)	2(0.74)	7(2.59)
	Poor	1(0.37)	3(1.11)	5(1.85)
	Good	93(34.44)	87(32.22)	1(0.37)
	Fair	6(1.48)	8(2.96)	77(28.51)

➢ *Key:*

- Faith Base School: Deeper life secondary School, Enugu.
- Private School: Gateway Secondary School, Enugu.
- Public School: Government Technical College.

Table 4: Table 4 displays the oral health examination results for the students. Six (2.22%), three (1.11%), and eight (2.96%) of the respondents had dental problems from GTC, Deeper Life, and Gateway School, respectively, according to the observed oral health status. Of the responders, 2 (0.74%), 9 (3.33%), and 3 (1.11%) had dental calculus. Only 1 (0.37%) and 5 (1.85%) of the respondents, respectively, had stains from Gateway School and Deeper Life; no respondents had stains from GTC. Of the respondents, 4 (1.48%) and 1 (0.37%) from Gateway School and Deeper Life, respectively, had gingivitis; no responder from GTC had gingivitis. Three (1.11%) and seven (2.59%) of the respondents had dental caries from deeper life and GTC, respectively. Of the respondents, none of the previously mentioned oral health disorders are present in 91 (33.70%), 66 (24.44%), and 73 (27.04%) from GTC, Deeper Life, and Gateway School, respectively.

The majority of respondents (93, 34.44%), 87, 32.22%), and 1 (0.37%) from GTC, Deeper Life, and Gateway School had satisfactory dental health status, according to the results of the oral health examination. Of the responders, only 2 (0.74%) and 7 (2.59%) from GTC had extremely poor dental health. Of the responders from Gateway, Deeper Life, and GTC schools, 1 (0.37%), 3 (1.11%), and 5 (1.85%) reported having poor dental health. Additionally, among the respondents with a fairly good dental health status, the following percentages were found: 6 (1.48%), 8 (2.96%), and 77 (28.51%) from GTC, Deeper Life, and Gateway School, respectively.

➢ *Test of Hypotheses*

- **Ho:** There is no significant difference in the level of oral health awareness between students in private, faith based/mission and public schools.
- **H_1:** There is significant difference in the level of awareness between students in private, faith based/mission and public schools.

Table 5: Paired Samples Test

		Paired Differences					t	df	p-value
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Level of Awareness - oral Health Status	-4.83333	48.17641	19.66794	-55.39138	45.72471	-.246	5	.816

Determine whether students' awareness and practice of their oral health status among the students from the three selected schools have a significant correlation (at the 0.05 significant level).

We accept the null hypothesis if the p-value is greater than 0.05; otherwise, we reject it.

The T-test of Two-Sample Assuming Unequal Variances was used to test the hypothesis and determine whether there is, at a 95% confidence level, a significant relationship between the degree of knowledge and level of practice of oral health status. For this test, the statistical analysis tools in IBM SPSS version 25 were used. The results indicated two factors that were tested. The purpose of the test was to determine whether there is a meaningful correlation

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between students' oral health and their level of knowledge among the three schools that were chosen within the Enugu metropolitan area. It was discovered that the P-value was 0.86, over the test at 0.05 confidence limit. Therefore, the alternative hypothesis was accepted and the null hypothesis was rejected.

- **Ho:** There is no significant relationship between oral health awareness and the oral health status of students in private, faith based/mission and public schools.
- **H_1:** There is significant relationship between oral health awareness and the oral health status of students in private, faith based/mission and public schools.

Table 6 : Correlation Table between the Three Selected Schools

Coefficients Table					
	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Categories	.014	.009	.436	1.531	.157
(Constant)	2.170	.384		5.651	.000

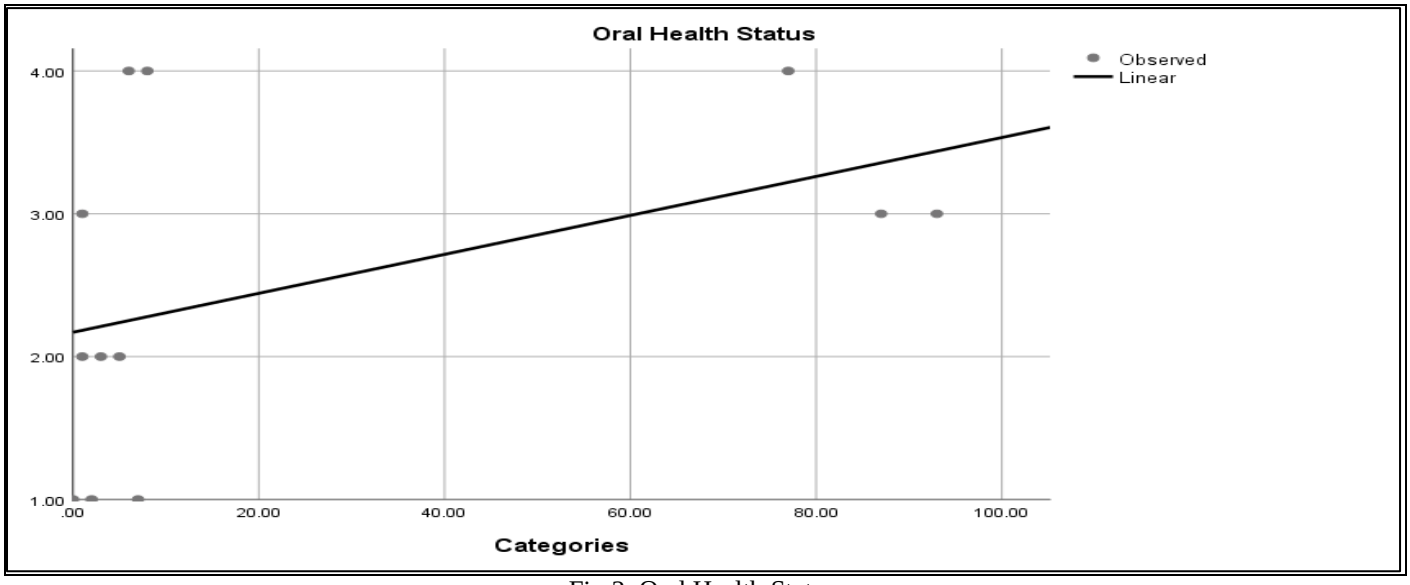

Fig 2: Oral Health Status

Using multiple correlation in IBM SPSS version 25, the test of the hypothesis sought to determine whether there was a significant correlation between the three selected schools' oral health status. The statistical analysis revealed that, at the 0.05 level of significance, the linearity of the correlation between the three selected schools' oral health status demonstrates a high level of student knowledge regarding oral health status. This showed that the study populations had a strong, very significant association. Even yet, the alternative hypothesis was disproved since the p-value (0.157) was greater than the predetermined significance limit of 0.05. Because of the great degree of linearity in the association between the three chosen institutions, the null hypothesis was thus accepted.

III. DISCUSSION OF FINDINGS

A number of physiological changes take place in the mouth, making students' oral health status crucial. The increase in bacterial activity in diseased teeth, which is linked to a number of variables, is the most prevalent cause of gingiva damage in humans and can result in bleeding gums. High-quality oral hygiene from birth has been shown to be crucial to developing a mouth that is in good condition. Good dental hygiene, which includes frequent brushing and flossing, can help prevent periodontal disease, which is one of the most common oral diseases. Students' knowledge and status on oral health can have an impact on good oral hygiene practices. Nonetheless, there existed deficiencies in the knowledge and condition of oral health.

In all, 270 students; 90 from each of the following schools participated in the study: Governments Technical College, Enugu, Gateway Secondary School, a private institution, and Faith Base School. SPSS version 25 was used for the study's analysis of the administered questionnaires, which were completed correctly. Approximately 58% of the population recorded in the study was between the ages of 16 and 18, with the bulk of responders being within those ages. The lowest percentage of students, 3.6%, was recorded as being older than 19 years old. For both guys and girls who took part in the study, GTC's gender record was 50% each. Males made up about two thirds of the respondents from Deeper Life Secondary School, while female respondents from Gateway School were slightly more numerous than male respondents in the same study. There was a little variation in the number of pupils in the respondents' class from SSSI-SSSIII compared to the three schools that were chosen. The respondents' religion revealed that, out of the three schools chosen, 99% of respondents were Christians, whereas 0.9% of Muslims who did not practice a

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conventional religion and 0.1% of pagan respondents were found in the survey.

People's health is significantly impacted by knowledge because it raises people's understanding of the benefits and threats to their health and facilitates decision-making regarding their oral health. In contrast, the current study's findings showed that more than 60% of respondents were aware of the value of routine dental exams for maintaining oral health, with less than 35% of students not understanding the significance of these visits. These results are in line with research by Siddharthan et al., (2021), where 65.9% of respondents reported, on oral health knowledge, attitude, and behavior and its link to sociodemographic and habitual characteristics of the south Indian population. The majority of survey participants (68%) who answered from the three schools that were chosen were aware of the right ways to wash their teeth. This further indicated that awareness of these approaches was widespread. This finding was at odds with a study conducted in 2016 by Hamza et al. at Ryom Government College in the state of the Plateau, which assessed the oral health of secondary school pupils and discovered that two-thirds of the participants lacked knowledge of effective teeth-brushing practices. This finding may have been caused by the respondents' ethnicity and the study area's different geographic. Conversely, the respondents' awareness of the significance of flossing in preserving dental health showed that, out of the three schools chosen, the majority of participants were unaware of the aforementioned topic, with just a small percentage having knowledge. Although the participants' awareness of the impact of food on dental health (e.g., avoiding sugar and snacks) was not demonstrated, this could be because all of the participants were too young for the oral health issues to become apparent in them. Additionally, a significant portion of the respondents did not know that the study population at the three selected schools had cavities and gum disease, which are prevalent dental issues with warning signs and symptoms.

Despite some minor limitations in the participants' understanding of oral health, a sizable portion of respondents had good dental health. A higher percentage of research participants than usual retain good dental health. In a study conducted in Calabar, it was found that 94.4% of participants maintained good oral health. To keep teeth clean and clear of infections, the majority of participants in earlier studies felt that brushing should be a daily oral health activity.

Additionally, the greatest percentage of respondents from Gateway School claimed that fear and anxiety are variables impacting oral health awareness, despite the fact that the majority of respondents from GTC and Deeper Life School indicated that peer group plays a key role in promoting oral health awareness. These results align with the investigation into the variables impacting pupils' awareness of oral health in the three designated schools. There were fewer respondents to the survey for other identified criteria, such as perceived need, affordability, and accessibility of oral health services.

The participants in the study's oral health status said that, based on the findings, only a smaller percentage of students had oral health conditions like dental calculus, dental plaques, and gingivitis, with 95% of respondents from the three schools chosen for the study showing no observed oral health problems. This result disagrees with research conducted in 2015 by Rad et al. on 12-year-old Iranian schoolchildren's acquaintance, attitudes, and practices around oral health. In that study, oral health issues were primarily noted in the study population, even though oral health examinations revealed good results for the majority of participants, with a smaller percentage obtaining very poor, poor, or fair results.

IV. IMPLICATION OF THE STUDY

Public health concerns pertaining to oral health demand careful consideration. Since the mouth serves as the body's primary entrance, any issue with it typically has an effect on one's general health. Adherence to appropriate oral hygiene practices is crucial in mitigating the risk of prevalent oral illnesses. People's general health will be greatly enhanced by raising knowledge of oral health issues and teaching them how to practice proper oral hygiene from an early age. The study intends to bridge the knowledge gap about oral health among Nigerian secondary school students.

V. CONCLUSION

amid the students of the three selected schools in Enugu city, there were minor knowledge gaps about oral health. To improve the dental health of pupils, it is crucial to offer programs and education on oral health. When it comes to students, maintaining proper dental hygiene is essential for preserving good oral health and is beneficial for the physiology of the entire body. In light of the study's findings regarding oral health awareness in three specifically chosen secondary schools in the Enugu metropolitan area, Through assessment, education, and appropriate treatment planning, the local Department of Health must exert every effort to encourage improvements in oral health and quality of life.

RECOMMENDATION

In view of the research indicating a deficiency in oral health knowledge among the senior pupils at the three selected secondary schools in the state of Enugu, the following recommendations were made:

- Both primary and secondary educational institutions should include oral health education in their curricula. This will significantly contribute to raising pupils' knowledge of the importance of maintaining good dental health into adulthood.

- Public health dentists ought to support community and school-based dental health outreach initiatives that will benefit school-age children.
- For everyone to have access to high-quality dental care, the federal, state, and local governments should think

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about integrating dental services into the current primary health care (PHC) facilities.

- All educational institutions should routinely arrange for students to participate in trainings, seminars, and campaigns on oral and personal cleanliness and related activities.
- Regularly promoted oral health jingles on how to maintain good dental hygiene and take care of the mouth and its structures should appear on our media platforms, including social media.

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